

11-18-05

JFW



Docket No.: DW0029USCNT  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Larry D. Cady et al.

Application No.: 10/719,381

Confirmation No.: 2561

Filed: November 20, 2003

Art Unit: 1713

For: SHEAR THINNING ETHYLENE/ALPHA-OLEFIN INTERPOLYMERS AND THEIR PREPARATION

Examiner: R. D. Harlan

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed more than three months after the U.S. filing date, OR more than three months after the date of entry of the national stage of a PCT application, AND after the mailing date of the first Office Action on the merits, whichever occurs first, but before the mailing date of a Final Office Action or Notice of Allowance (37 CFR 1.97(c)).

A summary/abstract of the non-patent references is enclosed.

Applicant has not submitted copies of each cited U.S. patent and U.S. patent application as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S. Patent and

Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

Please charge our Deposit Account No. 04-1512 in the amount of \$180.00 covering the fee set forth in 37 CFR 1.17(p). The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1512, under Order No. DW0029USCNT.

Dated: November 17, 2005

Respectfully submitted,

By Jane M. Terry  
Jane M. Terry  
Registration No.: 53,682  
THE DOW CHEMICAL CO.  
2030 Dow Center  
Midland, Michigan 48674  
(979) 238-3424

Substitute for form 1449A/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <b>(Use as many sheets as necessary)</b>		<b>Complete If Known</b>	
		Application Number	10/719,381
		Filing Date	November 20, 2003
		First Named Inventor	Larry D. Cady, et al.
		Art Unit	
		Examiner Name	
		Attorney Docket Number	DW0029USCNT

**U.S. PATENT DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US-5,326,602	07/05/1994	Mahmoud Rifi	
		US-5,470,993	11/28/1995	David D. Devore, et al.	
		US-5,556,928	09/17/1996	David D. Devore, et al.	
		US-5,624,878	04/29/1997	David D. Devore, et al.	
		US-5,869,591	02/09/1999	Kevin W. McKay, et al.	
		US-6,774,186 B2	08/10/2004	Kim L. Walton	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Application of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		WO91/17194	11/14/1991	Bradley P. Etherton, et al.		
		WO94/06858	03/31/1994	Kevin W. McKay, et al.		
		WO95/08441	03/30/1995	Kelly R. Ahlgren		
		WO95/30698	11/16/1995	Jacob Renkema, et al.		
		WO96/07681	03/14/1996	Kevin W. McKay, et al.		
		WO96/33226	10/24/1996	Pradeep P. Shirodkar		
		WO98/27103	06/25/1998	Mark H. McAdon, et al.		
		WO98/32795	07/30/1998	Henry G. Heck, et al.		
		WO98/49211	11/05/1998	Lawrence T. Kale, et al.		
		WO98/49212	11/05/1998	Debra J. Mangold, et al.		
Examiner Signature				Date Considered		

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

<sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

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		US-2004/0127628 A1	07/01/2004	Kim L. Walton, et al.		
		US-2005/0009942 A1	01/13/2005	Kim L. Walton		
		US-2005/0176892 A1	08/11/2005	Laura B. Weaver, et al.		
		US-5869591 (equiv. of WO9607681)	02/09/1999	Kevin W. McKay, et al.		
		US-5977271 (equiv. of WO9607681)	11/02/1999	Kevin W. McKay, et al.		
		US-6111020 (equiv. of WO9607681)	08/29/2000	Steven R. Oriani, et al.		
<b>FOREIGN PATENT DOCUMENTS</b>						
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		EP-0600425 B1	03/08/2000	Robert Babrowicz, et al.		
		EP-0751182 B1	10/01/2003	Masaaki Kawasaki, et al.		
		EP-0794226 A1	09/10/1997	Okada, Keihi, et al.		
Examiner Signature				Date Considered		

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

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				Art Unit	1713
				Examiner Name	R. D. Harlan
				Sheet	3

<b>U.S. PATENT DOCUMENTS</b>					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-5965756 (equiv. Of WO9827103)	10/12/1999	Mark H. McAdon, et al.	
		US-6034022 (equiv. Of WO9827103)	03/07/2000	Mark H. McAdon, et al.	
		US-6420507 (equiv. Of WO9827103)	07/16/2002	Lawrence T. Kale, et al.	
		US-6506842 (equiv. of WO9832795)	01/14/2003	Henry G. Heck, et al.	
		US-5414040 (equiv. of WO9406858)	05/09/1995	Kevin W. McKay, et al.	
		US-5580920 (equiv. of WO9406858)	12/03/1996	Kevin W. McKay, et al.	
		US-5747580 (equiv. of WO9406858)	05/05/1998	Kevin W. McKay, et al.	

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					T <sup>6</sup>

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

<b>NON PATENT LITERATURE DOCUMENTS</b>					
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature		Date Considered
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<b>NON PATENT LITERATURE DOCUMENTS</b>			<b>T<sup>2</sup></b>
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
		STUDY OF LONG-CHAIN BRANCHING IN ETHYLENE POLYMERIZATION. Beigzadeh, D.; Soares, J. B. P.; Hamielec, Archie E. Department of Chemical Engineering, University of Waterloo, Waterloo, ON, N2L 3G1, Can. Polym. React. Eng. (1997), 5(3), 141-180. (Abstract)	
		LOW SHRINK FORCE SHRINK FILM CONTAINING HOMOGENEOUS SUBSTANTIALLY LINEAR POLYMER HAVING LONG CHAIN BRANCHING. Lambert, William Scott; Wilburn, Daniel Scott; Wofford, George Dean; Ahmed, Paul O. (W.R. Grace & Co.-Conn., USA). (Abstract)	
		CELLULAR TUBULAR FILMS AND THEIR MANUFACTURE AND USES IN PACKAGING BAGS. Matsuoka, Toshihiro; Matsuda, Yoichi. (Maruzen Kogyo Co Ltd, Japan; Nippon Unicar Co Ltd). Jpn Kokai Tokkyo Koho, 7 pp. CODEN: JKXXAF. JP 08113660A2 960507 Heisei. Patent written in Japanese. Application: JP 94/275878 941014. CAN 125:116877 (Abstract)	
		HOMOGENEOUS ETHYLENE- $\alpha$ -OLEFIN COPOLYMERS WITH LONG CHAIN BRANCHING: EVALUATION OF THE BASIC MATERIAL PROPERTIES CONTROLLING PROCESSING BEHAVIOR. Kim, Y.S.; Chung, C.I.; Lai, S. Y.; Hyun, K.S. Rensselaer Polytechnic Institute, Troy, NY, 2180, USA. Annu. Tech. Conf.-Soc. Plast. Eng. (1995), 53 <sup>rd</sup> (Vol. 1), 1122-9. (Abstract)	
		LONG CHAIN BRANCH GENERATION IN ETHYLENE- $\alpha$ -OLEFIN COPOLYMERIZATION SYSTEMS WITH OR WITHOUT METALLOCENE COMPOUNDS. Imai, Akio; Shiraishi, Hiroyuki; Jouhouji, Hirofumi. Petrochemicals Research Laboratory, Sumitomo Chemical Company, Sodegaura, 299-02, Japan. Stud. Surf. Sci. Catal. (1995), 92(Science and Technology in Catalysis 1994), 299-302. (Abstract)	
		STRUCTURAL AND PROPERTY CORRELATIONS OF ETHYLENE- $\alpha$ -OLEFIN COPOLYMERS. Bodor, G.; Dalcolmo, H.J.; Schroeter, O. Polym. Res. Inst., Budapest, H-1950, Hung. Colloid Polym. Sci. (1989), 267(6), 480-93. (Abstract)	
		CARBON-13 NMR STUDY AT 62.89 MHZ OF LONG BRANCHING OF BRANCHED HIGH-MOLECULAR-WEIGHT ALKANES. MODELS OF BRANCHED POLYETHYLENE AND ETHYLENE- $\alpha$ -OLEFIN COPOLYMERS. Freche, Patrick; Grenier-Loustalot, Marie Florence. Lab. Chim. Org. Phys., Inst. Univ. Rech. Sci., Pau, 64000, Fr. J. Polym. Sci., Polym. Chem. Ed. (1983), 21(9), 2755-62. (Abstract)	
		RELATION OF RHEOLOGICAL PROPERTIES AND STRUCTURE PARAMETER OF ETHYLENE-PROPYLENE-DIENE TRIPOLYMER. Zhou, Fengzhu. Changchun Inst. Appl. Chem., Acad. Sin., Changchun, Peop. Rep. China. Hecheng Xiangjiao Gongye (1986), 9(1), 42-7. (Abstract)	
EXAMINER SIGNATURE		DATE CONSIDERED	

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<b>NON PATENT LITERATURE DOCUMENTS</b>			<b>T<sup>2</sup></b>
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
		CATALYST SYSTEM FOR MAKING TERPOLYMER RUBBER FROM ETHYLENE, PROPYLENE, AND A NONCONJUGATED POLYCYCLIC DIENE. Loveless, Frederick Charles; Miller, Don Hyde. (Uniroyal, Inc.). Ger. Offen., 16 pp. CODEN: GWXXBX. DE 2222210 721123. Patent written in German. Application: DE Priority: US 71-142058 710510 CAN 78:137657. (Abstract)	
		BRANCHES OF POLYMERS. 2. DETERMINATION OF THE RATIO OF LONG CHAIN BRANCHES BY THE SOLUTION METHOD. Abe, Mitsuo; Kurata, Michio. Cent. Res. Inst., Nippon Synth. Rubber Co., Ltd., Tokyo, Japan. Kagaku (Kyoto), Zohan (1970), No. 43, 85-100. (Abstract)	
		ROSIN ESTER TACKIFIERS [AND FAULTY BUILDING TACK IN EPDM POLYERS]. Mueller, W. J.; Bennett, Bailey; Stickney, P.B. Battelle Mem. Inst., Columbus, OH, USA. Rubber Age (N.Y.) (1968), 100(6), 59-64. (Abstract)	
<b>EXAMINER</b> <b>SIGNATURE</b>		<b>DATE</b> <b>CONSIDERED</b>	

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.



11-1805

PTO/SB/17 (12-04v2)

Approved for use through 7/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person are required to respond to a collection of information unless it displays a valid OMB control number.

**Complete if Known**

<b>Effective on 12/08/2004.</b> <b>Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).</b> <b>FEE TRANSMITTAL</b> <b>For FY 2005</b>		Application Number	10/719,381-Conf. #2561
		Filing Date	November 20, 2003
		First Named Inventor	Larry D. Cady
		Examiner Name	R. D. Harlan
		Art Unit	1713
		TOTAL AMOUNT OF PAYMENT	(\$ 180.00)

**METHOD OF PAYMENT** (check all that apply)

Check  Credit Card  Money Order  None  Other (please identify): \_\_\_\_\_  
 Deposit Account Deposit Account Number: 04-1512 Deposit Account Name: The Dow Chemical Co.

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

Charge fee(s) indicated below  Charge fee(s) indicated below, except for the filing fee  
 Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17  Credit any overpayments

**FEE CALCULATION**

**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

<u>Application Type</u>	<u>FILING FEES</u>		<u>SEARCH FEES</u>		<u>EXAMINATION FEES</u>		<u>Fees Paid (\$)</u>
	<u>Fee (\$)</u>	<u>Small Entity</u>	<u>Fee (\$)</u>	<u>Small Entity</u>	<u>Fee (\$)</u>	<u>Small Entity</u>	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES**

Fee Description

Each claim over 20 (including Reissues)

Small Entity

Fee (\$) Fee (\$)

50 25

Each independent claim over 3 (including Reissues)

200 100

Multiple dependent claims

360 180

<u>Total Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>	<u>Multiple Dependent Claims</u>
_____	- =	x _____	= _____	_____

<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
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<u>Indep. Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
_____	- =	x _____	= _____

_____	_____
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**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

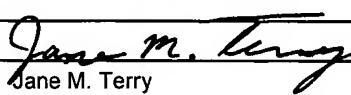
<u>Total Sheets</u>	<u>Extra Sheets</u>	<u>Number of each additional 50 or fraction thereof</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
_____	- 100 = _____	/50 (round up to a whole number) x _____	= _____	

Fees Paid (\$)

**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): 1806 Submission of an Information Disclosure Statement 180.00

<b>SUBMITTED BY</b>				
Signature		Registration No. (Attorney/Agent)	53,682	Telephone (979) 238-3424
Name (Print/Type)	Jane M. Terry		Date	November 17, 2005